CLAIMS

1. An information recording medium storing data which can be accessed from an accessing device, comprising:

a storage device operable to store data and having plural areas to be managed by independent file systems;

an area information storage section operable to store information about size and position of each area of the storage device;

a host interface operable to receive a command for setting size of each area of the storage device from the accessing device; and

an area size setting section operable to set size and position of each area of the storage device,

wherein the area size setting section sets the area size of each area in the storage device based on a predetermined setting condition according to the command received from the accessing device.

2. The information recording medium according to claim 1, wherein

the host interface receives the size of one area in the storage device, from the accessing device, and

the area size setting section determines the size of the other areas in the storage device on the basis of the received size of the one area and the setting condition, and sets information stored in the area information storage section, on the basis of the received value and the determined value.

3. The information recording medium according to claim 1, further comprising:

an authentication controller operable to authenticate the accessing device,

wherein the storage device has an authentication area which allows access from the accessing device only when authentication is successful by the authentication

controller, and a non-authentication area which allows access from the accessing device regardless of the authentication result by the authentication controller, and

the non-authentication area and authentication area individually have plural areas, and each area in the non-authentication area have the corresponding area in the authentication area.

4. The information recording medium according to claim 3, wherein

information about entire sizes of the non-authentication area and the authentication area is stored as the setting condition;

the host interface receives the size of one area in the non-authentication area or authentication area from the accessing device; and

the area size setting section determines the size of the other area in the non-authentication area or authentication area on the basis of the received size and setting condition, and sets the information to be stored in the area information storage section on the basis of the received value and determined value.

5. The information recording medium according to claim 3, wherein information about a ratio of size of an area included in the non-authentication area to size of the corresponding area included in the authentication area is stored as the setting condition,

the host interface receives the size of one area in the non-authentication area or authentication area from the accessing device, and

the area size setting section determines the size of each area in the non-authentication area and authentication area on the basis of the received size of one area and the ratio, and sets the information to be stored in the area information storage section on the basis of the received value and determined value.

6. The information recording medium according to claim 3, wherein

information about a ratio of size of an area included in the non-authentication area to size of the corresponding area included in the authentication area is stored as the setting condition,

the host interface receives the size of each area in the non-authentication area or authentication area from the accessing device, and

the area size setting section determines the size of each area in the non-authentication area and authentication area on the basis of the received size of each area and the ratio, and sets the information to be stored in the area information storage section on the basis of the received value and determined value.

7. The information recording medium according to claim 3, wherein

the setting condition is a composition ratio of each area in the non-authentication area or the authentication area,

the host interface receives the size of each area in one of the non-authentication area and authentication area from the accessing device, and

the area size setting section calculates the composition ratio from the received area size, determines the size of each area in the other of the non-authentication area and authentication area on the basis of the composition ratio, and sets the information to be stored in the area information storage section according to the received value and determined value.

8. The information recording medium according to claim 3, wherein

the area information storage section stores plural combinations of sizes of areas included in the non-authentication area and authentication area,

the host interface receives a specifying

information indicating one combination, from the accessing device, and

the area size setting section selects the one combination in the area information storage section according to the received specifying information, and sets the size of each area in the non-authentication area and authentication area according to the selected combination.

9. The information recording medium according to claim 3, wherein

the host interface receives the entire size of at least one of the non-authentication area and authentication area from the accessing device, and

the area size setting section sets the entire size of the non-authentication area and authentication area on the basis of the received entire size.

10. The information recording medium according to claim 1, wherein the area size setting section allows only discrete value for an area size that can be set by the accessing device.

11. The information recording medium according to claim 1, wherein the area size setting section sets the size of each area of the storage device to be larger than the total size of bad blocks which is calculated by the entire size or each area size of the storage device and a rate of good blocks.

12. The information recording medium according to claim 3, wherein the size of m areas included in the authentication area, and the size of n areas included in the non-authentication area (m and n are integers of 0 or more, $m+n \geq 2$) are fixed size.

13. An accessing device for writing and reading data to and from an information recording medium which stores data and having plural areas in which data is managed by

independent file systems, the accessing device comprising:

a slot operable to load the information recording medium; and

a file system controller operable to control the file systems established on the information recording medium loaded in the slot;

wherein the file system controller transmits a command for requesting area size setting to the information recording medium to set the size of each area in the information recording medium, while specifying information about the size of area in the information recording medium.

14. The accessing device according to claim 13, wherein the file system controller specifies the size of one area in the information recording medium in order to set the size of each area in the information recording medium.

15. The accessing device according to claim 13, wherein, when the information recording medium has an authentication area which allows access only when authentication is successful and a non-authentication area which allows access regardless of authentication result, the non-authentication area and authentication area having plural areas respectively,

in order to set the size of each area of the information recording medium, the file system controller specifies the size of one area in either one of the non-authentication area and authentication area, to the information recording medium.

16. The accessing device according to claim 13, wherein, when the information recording medium has an authentication area which allows access only when authentication is successful and a non-authentication area which allows access regardless of authentication result, the non-authentication area and authentication area having plural areas respectively,

in order to set the size of each area of the information recording medium, the file system controller specifies the size of one area in either one of the non-authentication area and authentication area, to the information recording medium.

17. The accessing device according to claim 13, wherein, when the information recording medium has an authentication area which allows access only when authentication is successful and a non-authentication area which allows access regardless of authentication result, the non-authentication area and authentication area having plural areas respectively,

in order to set the size of each area of the information recording medium, the file system controller specifies the size of each area in either one of the non-authentication area and authentication area, to the information recording medium.

18. The accessing device according to claim 13, wherein, when the information recording medium has an authentication area which allows access only when authentication is successful and a non-authentication area which allows access regardless of authentication result, the non-authentication area and authentication area having plural areas respectively,

in order to set the size of each area of the information recording medium, the file system controller specifies the size of each area in either one of the non-authentication area and authentication area, to the information recording medium.

19. The accessing device according to claim 13, wherein, when the information recording medium has an authentication area which allows access only when authentication is successful and a non-authentication area which allows access regardless of authentication result, and when the non-authentication area and authentication

area have plural areas respectively and plural combinations of size of each area of the non-authentication area and authentication area are stored,

in order to set the size of each area of the information recording medium, the file system controller transmits information for selecting one combination from the plural combinations stored, to the information recording medium.

20. The accessing device according to claim 13, wherein, when the information recording medium has an authentication area which allows access only when authentication is successful and a non-authentication area which allows access regardless of authentication result, the non-authentication area and authentication area having plural areas respectively,

in order to set the size of each area of information recording medium, the file system controller specifies the entire size of at least one of the non-authentication area and authentication area, to the information recording medium.

21. The accessing device according to claim 13, wherein the file system controller specifies only discrete value only for the size of area that can be specified for setting the size of each area of information recording medium.

22. The accessing device according to claim 13, wherein the file system controller sets the area size to be specified for setting each area of the information recording medium to be larger than the total size of bad blocks which is calculated by the entire size of the information recording medium or the size of each area in the information recording medium and a rate of good blocks.

23. A area setting method of an information recording medium having plural areas, each area storing data which is

managed by mutually independent file system, the area setting method comprising:

receiving, from outside of the information recording medium, a command for requesting setting of area size of the information recording medium and specifying information about the area size of the information recording medium; and

setting area size of each area in the information recording medium based on a predetermined setting condition, according to the received command.

24. The area setting method according to claim 23, including

receiving the size of one area in the information recording medium from outside,

determining the size of the other area in the information recording medium on the basis of the received size of one area and the setting condition, and

setting the size of each area in information recording medium on the basis of received value and determined value.

25. The area setting method according to claim 23, wherein

the information recording medium has an authentication area which allows access by the accessing device only when authentication is successful, and a non-authentication area which allows access by the accessing device regardless of the authentication result, and the non-authentication area and authentication area have plural areas respectively, and

the area setting method includes:

receiving the size of one area in one of the non-authentication area and the authentication area;

determining the size of the other area in the one of the non-authentication area and the authentication area on the basis of the received size and information about entire size of non-authentication area

and authentication area; and

setting the size of each area of the information recording medium on the basis of the received value and determined value.

26. The area setting method according to claim 23, wherein

the information recording medium has an authentication area which allows access by the accessing device only when authentication is successful, and a non-authentication area which allows access by the accessing device regardless of the authentication result, and the non-authentication area and authentication area have plural areas respectively, and

the area setting method includes:

storing size of area in the non-authentication area and information about the ratio of size of area in the non-authentication area to size of the corresponding area in the authentication area, as a setting condition;

receiving the size of one area in one of the non-authentication area and the authentication area;

determining the size of each area of the non-authentication area and the authentication area on the basis of the received size of one area and the ratio; and

setting the size of each area of the information recording medium on the basis of the received value and determined value.

27. The area setting method according to claim 23, wherein

the information recording medium has an authentication area which allows access by the accessing device only when authentication is successful, and a non-authentication area which allows access by the accessing device regardless of the authentication result, and the non-authentication area and authentication area have plural areas respectively, and

the area setting method includes:

storing size of area in the non-authentication area and information about the ratio of size of area in the non-authentication area to size of the corresponding area in the authentication area, as a setting condition;

receiving the size of each area in one of the non-authentication area and the authentication area;

determining the size of each area of the non-authentication area and the authentication area on the basis of the received size of each area and the ratio; and

setting the size of each area of the information recording medium on the basis of the received value and determined value.

28. The area setting method of information recording medium according to claim 23, wherein

the information recording medium has an authentication area which allows access by the accessing device only when authentication is successful, and a non-authentication area which allows access by the accessing device regardless of the authentication result, and the non-authentication area and authentication area have plural areas respectively, and

the area setting method includes:

receiving the size of each area in one of the non-authentication area and the authentication area;

calculating composition ratio of each area to the non-authentication area or authentication area from the received size of each area;

determining the size of each area in the other of the non-authentication area and the authentication area on the basis of the composition ratio, and

setting the size of each area of the information recording medium on the basis of the received value and determined value.

29. The area setting method according to claim 23,

wherein

the information recording medium has an authentication area which allows access by the accessing device only when authentication is successful, and a non-authentication area which allows access by the accessing device regardless of the authentication result, and stores plural combinations of each area size of the non-authentication area and the authentication area,

the area setting method includes:

receiving specific information for selecting one combination,

selecting one combination from stored combinations according to the received specific information, and

setting each area size of the information recording medium according to the selected combination.

30. The area setting method according to claim 23, wherein

the information recording medium has an authentication area which allows access by the accessing device only when authentication is successful, and a non-authentication area which allows access by the accessing device regardless of the authentication result, and the non-authentication area and authentication area have plural areas respectively, and

the area setting method includes:

receiving the entire size of at least one of the non-authentication area and the authentication area, and

setting the entire size of the non-authentication area and the authentication area on the basis of the received entire size.

31. The area setting method according to claim 23, wherein discrete values are allowed as the size of each area to be set.

32. The area setting method according to claim 23, wherein

the size of each area in the information recording medium is set to be larger than the total size of bad blocks, in which the number of bad blocks are calculated from a good block rate and entire size of the information recording medium or size of each area of the information recording medium.